AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended): A system for assisting the regeneration of depollution means by O_2 combustion of soot,

wherein the depollution means is associated with oxidation catalyst-forming means implementing an OSC function, constituting a supply of O_2 and integrated in an exhaust line of a motor vehicle diesel engine, in which the oxidation catalyst-forming means constituting a supply of O_2 is located upstream of the depollution ~~device~~ means such that an outlet of the oxidation catalyst-forming means feeds into an inlet of the depollution means in the exhaust line and the engine is associated with common rail means for feeding its cylinders with fuel,

the system comprising means for analyzing the running conditions of the vehicle ~~and,~~ for comparing them with predetermined threshold values, ~~to control~~ and for controlling the engine (i) in a first regeneration operating mode by molecular O_2 combustion of the soot with a lean mixture when running conditions are above the threshold values, ~~or~~ and (ii) in a second regeneration operating mode by molecular O_2 combustion of the soot implementing sequences in which engine operation alternates between stages of rich mixture operation and of lean mixture operation when conditions are below the threshold values,

so that during rich mode, oxygen is released from the oxidation catalyst-forming means to promote combustion of reducing agents, so as to raise temperature levels at an inlet to the depollution means.

2. (Previously presented): A system according to claim 1, wherein the depollution means comprise a particle filter.

3. (Previously presented): A system according to claim 2, wherein the particle filter includes a catalyst.

4. (Previously presented): A system according to claim 1, wherein the depollution means comprise a NOx trap.

5. (Previously presented): A system according to claim 1, wherein the fuel includes an additive that is to be deposited together with the particles with which it is mixed on the depollution means in order to facilitate regeneration thereof.

6. (Previously presented): A system according to claim 1, wherein the depollution means are impregnated with an SCR formulation, performing a function of oxidizing CO/HC.

7. (Previously presented): A system according to claim 1, wherein the engine is associated with a turbocharger.

8. (Previously presented): A system according to claim 1, wherein the running conditions are determined from at least one of:

· the load on the engine;

· its running speed;

· the speed of the vehicle; and

· the temperature level in the vehicle exhaust line.

9. (Currently amended): A method of assisting the regeneration of a depollution device by O_2 combustion of soot,

wherein the depollution device is associated with an oxidation catalyst implementing an OSC function, constituting a supply of O_2 and integrated in an exhaust line of a motor vehicle diesel engine, in which the oxidation catalyst constituting a supply of O_2 is located upstream of the depollution device such that an outlet of the oxidation catalyst-forming means feeds into an inlet of the depollution device in the exhaust line and the engine is associated with a common rail for feeding its cylinders with fuel,

the method comprising:

- analyzing the running conditions of the vehicle, and

- comparing them with predetermined threshold values, and

- controlling the engine

- in a first regeneration operation mode by molecular O_2 combustion of the soot with a lean mixture when running conditions are above the threshold values, or

- in a second regeneration operating mode by molecular O_2 combustion of the soot implementing sequences in which engine operation alternates between stages of rich mixture operation and of lean mixture operation when conditions are below the threshold values,

so that during rich mode, oxygen is released from the oxidation catalyst to promote combustion of reducing agents, so as to raise temperature levels at an inlet to the depollution device.

10. (Previously presented): A method according to claim 1, wherein the depollution device comprises a particle filter.

11. (Previously presented): A method according to claim 10, wherein the particle filter includes a catalyst.

12. (Previously presented): A method according to claim 9, wherein the depollution device comprises a NOx trap.

13. (Previously presented): A method according to claim 9, wherein the fuel includes an additive that is to be deposited together with the particles with which it is mixed on the depollution device in order to facilitate regeneration thereof.

14. (Previously presented): A method according to claim 9, wherein the depollution device is impregnated with an SCR formulation, performing a function of oxidizing CO/HC.

15. (Previously presented): A method according to claim 9, wherein the engine is associated with a turbocharger.

16. (Previously presented): A method according to claim 9, wherein the running conditions are determined from:

· the load on the engine;

· its running speed;

· the speed of the vehicle; and/or

· the temperature level in the vehicle exhaust line.

17. (Currently amended): A method according to claim 9, wherein the oxidation catalyst-forming means implementing an OSC function constituting a supply of O_2 stores oxygen in the form of at least one of ~~cerine~~ ceria CeO_2 and a composite oxide of cerium and zirconium.

18. (Currently amended): A system according to claim 1, wherein the oxidation catalyst-forming means implementing an OSC function constituting a supply of O_2 stores oxygen in the form of at least one of ~~cerine~~ ceria CeO_2 and a composite oxide of cerium and zirconium.

19. (New): A system according to claim 1, wherein, in the second regeneration operating mode, the alternating stages of rich mixture operation and of lean mixture operation include at least a first stage of rich mixture operation, followed by a second stage of lean mixture operation, followed by a third stage of rich mixture operation, wherein the rich mixture operation stages have approximately a same duration.

20. (New): A method according to claim 9, wherein, in the second regeneration operating mode the alternating stages of rich mixture operation and of lean mixture operation include at least a first stage of rich mixture operation, followed by a second stage of lean mixture operation, followed by a third stage of rich mixture operation, wherein the rich mixture operation stages have approximately a same duration.